



# CSP RAG: Research ideas

# Seabirds – RA review

## Black petrel

- Population trend, mark recapture analysis.
- Assessment of the risk to black petrels from recreational fisheries.
- Survey total population size.
- Transmitter attachment and tracking of black petrel caught at sea.

## Flesh footed shearwater

- Assessment of risk posed by recreational fisheries to this species.

## Southern Buller's albatross

- How can the two Buller's taxa species be better separated during necropsy?
- More research on taxonomy, genetic markers?
- Level three population model rerun.



# Seabirds – RA review



## Chatham Islands albatross

- Goya et al. is reviewing artisanal fishing effort in South America (Note that this will be an ACAP paper in Spanish and may be relevant to the development of global risk assessment for seabirds).

## Northern Buller's albatross

- How can the two Buller's taxa species be better separated during necropsy?
- More research on taxonomy, genetic markers?

## Antipodean albatross

- Level three population modelling which is underway under contract to MPI.
- Investigate the impacts of sex bias in bycatch on population and productivity.

## Southern Royal albatross (*Diomedea epomophora*)

# Seabirds – RA review

## Southern Royal albatross

- Southern Royal population estimate and trend

## Westland petrel

- Why is the burrow occupancy rate so low? Review of *Procellaria* burrow occupancy rates may help answer this question.

## White-chinned petrel

- Disappointment Island, Adams Island, Enderby population estimates and tracking for distribution.
- Review morphometrics studies and taxonomy (Peter Ryan) for in-zone catch and meta-population splitting.

## Campbell black-browed albatross

- Check to make sure that there is no misidentification of bycaught juvenile Campbell black-browed albatross captures. Genetic analysis may be necessary.



# Seabirds – RA review

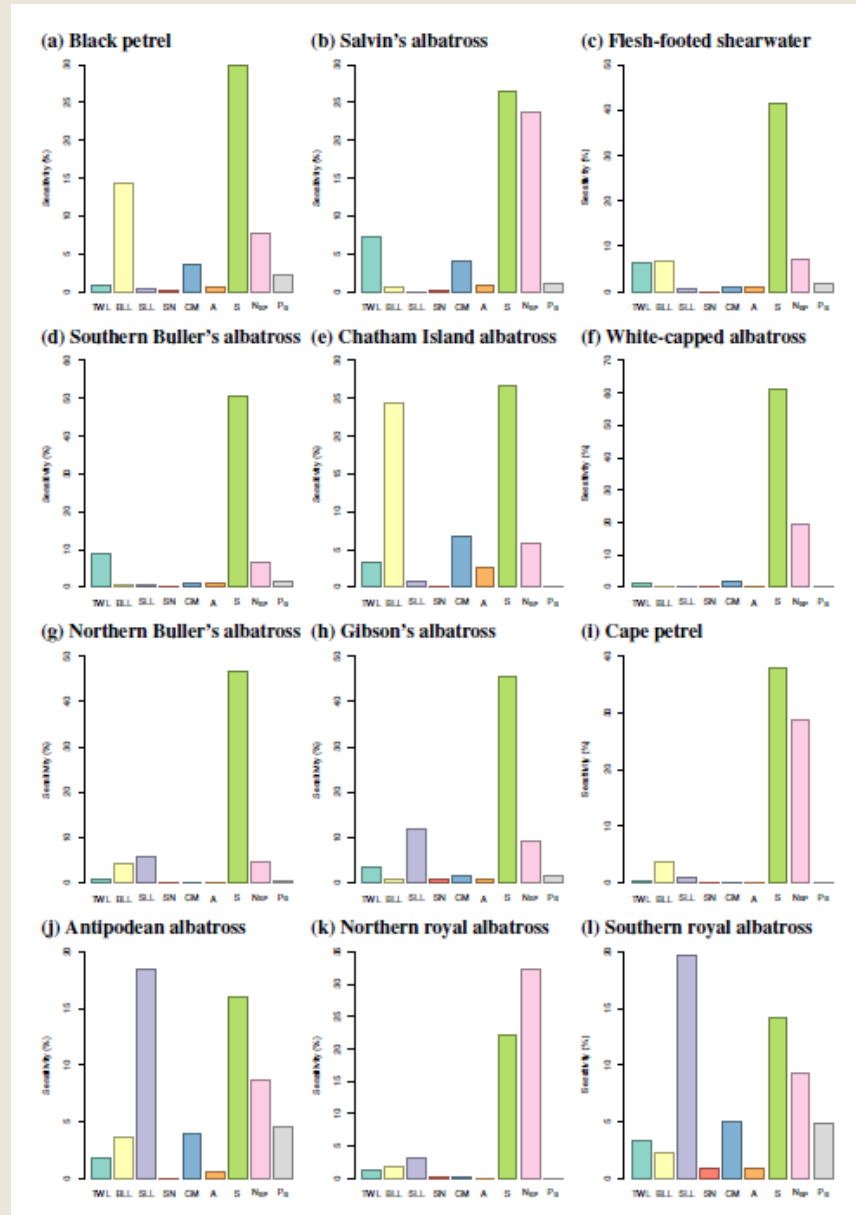
Yellow-eyed penguin – mainland population only

- GPS transmitters on juveniles, with regard to examining their distribution at sea and risk from fisheries.

Grey petrel

- Survey the Campbell Island grey petrel population during winter.

# Seabirds – RA uncertainty



# Seabirds - ACAP

## Population priorities

- (i) Resurvey Campbell Albatross at Campbell Island.
- (ii) Survey Salvin's Albatross at Bounty Islands.
- (iii) Maintain long-term demographic monitoring of Black Petrel at Great Barrier Island.
- (iv) Maintain long-term demographic monitoring of Antipodean Albatross at Adams Island, Auckland Islands.
- (v) Maintain long-term demographic monitoring of Buller's Albatross at the Snares, and resurvey Snares and Solander islands.
- (vi) Maintain population monitoring of White-capped Albatross at all sites in the Auckland Islands.
- (vii) Survey White-chinned Petrel at the Auckland Islands.
- (viii) Collate existing data on Light-mantled Albatross populations and survey at major breeding sites.



# Seabirds - ACAP

Priority tracking gaps:

Campbell and Grey-headed Albatrosses at Campbell Island;

Salvin's Albatross at Bounty Islands;

White-chinned Petrel at Auckland Islands;

Light-mantled Albatross at key sites.





# Seabirds – NZ seabird group



## Albatross priorities

- Salvin's Albatross, demography, productivity, adult & juvenile survival. High priority
- Correlation between the distribution of most albatross taxa with the distribution of fishing vessels. High priority
- Juvenile survival data required for most albatross species. Medium priority
- At sea ecology of black-browed albatross at Campbell Is. Medium priority
- Tracking of juveniles of all albatross species. Medium priority
- Note, there is a need to distinguish between real non-breeders opposed to failed breeders in at sea tracking studies.
- Continue regular monitoring of; Buller's albatross, grey-headed albatross, Gibson's albatross, Antipodean albatross,

# Seabirds – NZ seabird group



## Burrow breeding petrel surveys

- Population trend data essential for all Procellaria species. High priority
- Flesh-footed shearwater, population trend data throughout range (underway, Te Papa). High priority
- Kermadec storm petrel. High priority
- White-chinned Petrel, Auckland Is and Antipodes Islands, population estimates. Medium priority
- Grey Petrel, population estimates at all breeding sites. Medium priority
- Northern giant petrel, population size and trends. Low priority

## Yellow-eyed penguin

- Population trends (mainland & sub-Antarctic). High priority
- Marine ecology and role in marine ecosystem dynamics. High priority
- Fisheries interactions. High priority



# Other recommendations

Fish – protected fish review

CSP research reports (see research summary documents)

# POP2011-03 Protected fish – review of interactions and populations



		Stock identification - population unit				Biological information - species productivity						
Species	Proportion of stock in NZ	Genetic stock structure	Movement	World distribution	Habitat	Sum	Growth	Longevity	Maturity	Reproduction	Natural mortality	Sum
White shark	High	3	3	3	3	12	2	1	2	1	1	7
Whale shark	Low	2	2	3	3	10	1	1	1	1	1	5
Deepwater nurse shark	High?	0	0	2	1	3	0	0	1	1	0	2
Spintail devilray	Moderate	0	1	3	3	7	1	1	2	2	0	6
Manta ray	Low?	1	1	3	2	7	0	1	2	2	0	5
Spotted black grouper	High	1	0	4	3	8	2	2	1	1	2	8
Giant grouper	Low	0	0	3	3	6	0	0	1	0	0	1
Sum		8	9	24	20		7	7	11	9	5	
		Species and fishery distribution - extent of overlap in NZ				Response to exploitation in NZ						
Species	Proportion of stock in NZ	Stock distribution	Fishery distribution	Vulnerable components in commercial fisheries	Sum	Catches and biomass	Size composition	Sum	Information level			
									0 = none	1 = poor	2 = moderate	3 = good
Basking shark	High	3	2	> 4 m	5	2	0	2	0	0	0	0
White shark	High	3	2	All	5	0	0	0	0	0	0	0
Whale shark	Low	3	4	Not vuln.	7	NA	NA	0	0	0	0	0
Deepwater nurse shark	High?	1	1	All	2	0	0	0	0	0	0	0
Spintail devilray	Moderate	3	3	All	6	0	0	0	0	0	0	0
Manta ray	Low?	2	3	Not vuln.	5	NA	NA	0	0	0	0	0
Spotted black grouper	High	3	3	All	6	0	0	0	0	0	0	0
Giant grouper	Low	3	2	Not vuln.	5	NA	NA	0	0	0	0	0
Sum		21	20			2	0					